



The Fort Worth Water Department's mission is to provide safe and reliable water and wastewater services with environmental integrity.

This report is about the quality of the drinking water you received in 2003. As you read it, you will see the water treated and delivered was better than the state and federal standards require.

Fort Worth Water Department employees take pride in the work they do each day to protect public health. Regulations continue to become more stringent, making that job harder and harder.

We hope you take the time to look at the information. Water treatment is complex. We've tried to make the information as easy as possible to understand, while still following the state and federal guidelines for this report.

Water department representatives will be at the East Regional Library, 6301 Bridge St., on Thursday, July 15, 2004 from 6:30 p.m. to 7:30 p.m. to address any questions you may have about this report. No formal presentation is planned.

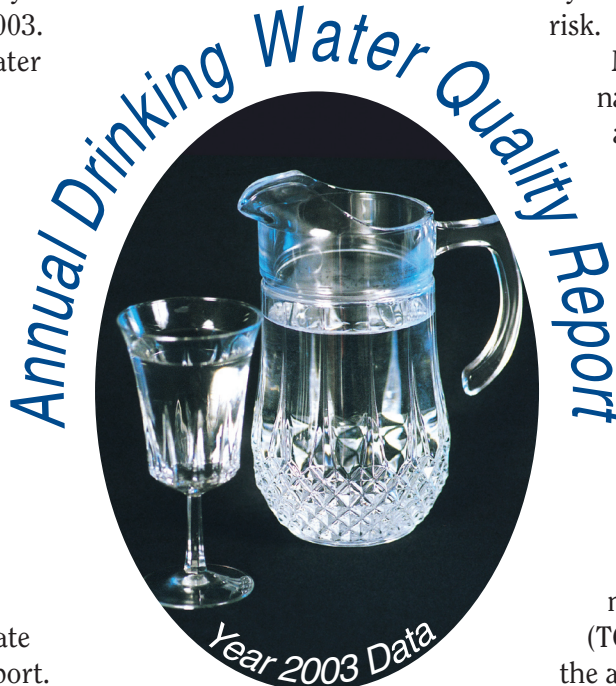
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

More information about contaminants and potential health effects is available from the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov.

As water travels over the land or through the ground, it dissolves naturally occurring minerals and radioactive material. It also can pick up substances resulting from animal waste or human activity.

To ensure tap water is safe to drink, EPA and the Texas Commission on Environmental Quality (TCEQ) have regulations limiting the amount of certain contaminants in water provided by public systems.

The Food and Drug Administration (FDA) regulates limits for contaminants in bottled water. These limits must provide the same protection for public health as tap water standards.



Fort Worth Water Department
Public Education Section
1000 Throckmorton St.
Fort Worth Texas 76102

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Fort Worth Water Department

817-FW-24-HRS (817-392-4477)

for billing questions, automated account information,
main breaks, sewer backups, water quality

Customer Service Locations

Downtown: 908 Monroe St.

Southeast Office: 4245 E. Berry St. (inside Minyard's Store)

Northside Office: 102 NW 28th St. (inside Carnival Store)

Web site: www.fortworthgov.org/water

Email: WPE@fortworthgov.org

Administrative Office

Fort Worth City Hall, 2nd Floor, 1000 Throckmorton St.
817-392-8220

The Water Department is part of Fort Worth city government. The City Council meets each Tuesday at City Hall.

1st & 2nd Tuesday of month 7 p.m.

All other Tuesdays 10 a.m.

Frequently Asked Questions About Water Quality

Why am I receiving this report?

In 1996, Congress added a requirement to the Safe Drinking Water Act that water utilities annually send a water quality report to their customers. EPA and TCEQ developed rules which outline the information the reports must include.

If my water tastes or smells different does that mean it's not safe to drink?

Contaminants may be found in drinking water that can cause taste, color or odor problems. These types of problems are not necessarily causes for health concerns.

Taste and odor problems may originate in any lake for a number of reasons, such as algae growth, a change in temperature, excessive rainfall, flooding, drought or dry weather conditions.

Water that has been stored in a pipe for a long time, especially during warm weather, also may develop an odor. That is why you may notice a change in your water after returning from vacation.

What if my water looks dirty or rusty?

Main breaks, construction in your neighborhood, or fire hydrant testing can cause water to look dirty or rusty. This condition can also occur where there are dead-end lines in the distribution system. The water will generally clear up within an hour or two.

While these situations do not

affect the safety of the water, they are investigated. Once the construction activity is complete, run water from all your faucets to flush your pipes. Once the water runs clear, turn off the faucets.

Will using a home treatment device make my water safer or healthier?

Not necessarily. Some people use home water filters to improve the taste, smell and/or appearance of their tap water, but it may not make the water safer or healthier.

If you purchase a home water treatment unit, be certain to follow the manufacturer's instructions for operation and maintenance, especially changing the filter regularly.

Also, different filters accomplish different things. Some home filters are for taste and odor problems, while others are effective in removing metals and still others in particle removal.

It is very important to use filters certified by the National Sanitation Foundation (NSF) for the aesthetic factor or contaminant removal desired.

The Water Department has a new brochure that discusses point-of-use water filters. For a copy, call 817-392-4477 or visit our Web site. Click on the Water Quality button.

Why do I have to treat the water in my aquarium?

Fort Worth uses chloramines to

disinfect the water. That makes the water safe for people to drink, but it's unsafe for fish. Chloramines leave behind trace amounts of chlorine and ammonia that can kill fish. Contact your pet store for the best way to treat water for use in your aquarium.

I just had an organ transplant and my immune system is weak. Is the water still safe for me?

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly or immunocompromised persons, such as those undergoing chemotherapy for cancer, those who have undergone organ transplants, those who are undergoing treatment with steroids and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections.

You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 800-426-4791.

What should I do if I think there's something wrong with my water?

Call 817-FW-24-HRS (817-392-4477). A representative will take your information and forward it to our laboratory. A laboratory employee will collect a sample from the outside tap nearest your water meter. Once the sample is analyzed, you are informed of the results.

Water employees should be wearing a city uniform and a city identification card. Employees do not enter your home to take the sample.

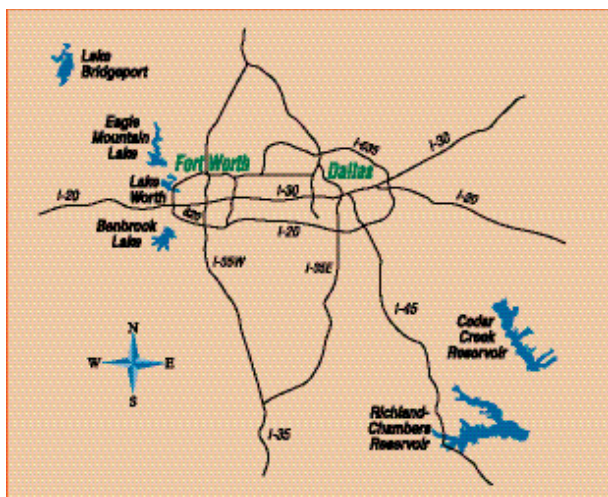


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Our Drinking Water Sources

Fort Worth uses surface water from six lakes — Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Benbrook Lake, Cedar Creek Reservoir and Richland-Chambers Reservoir.



The City of Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District (TRWD).

Fort Worth monitors water quality in Lake Worth and participates with TRWD to ensure the other lakes are regularly tested.

The Texas Commission on Environmental Quality conducted source water assessments on all six of our drinking water sources. Copies of these reports are available for viewing at the Fort Worth Water Department's office in City Hall, 1000 Throckmorton Street, second floor.

The assessment for Richland-Chambers Reservoir notes the herbicide atrazine can sometimes be detected at high levels. Atrazine is used to kill weeds in row crops. It enters the lake through runoff. TRWD works with farmers to minimize atrazine's impact on the water supply.

Water from Richland-Chambers Reservoir is treated at the Rolling

Hills Water Treatment Plant. The ozone process used at the plant effectively controls atrazine in drinking water.

Learn more about water by visiting the following web sites.

U.S. Environmental Protection Agency
www.epa.gov

Texas Commission on Environmental Quality:
www.tceq.state.tx.us

Texas Water Development Board
www.twdb.state.tx.us

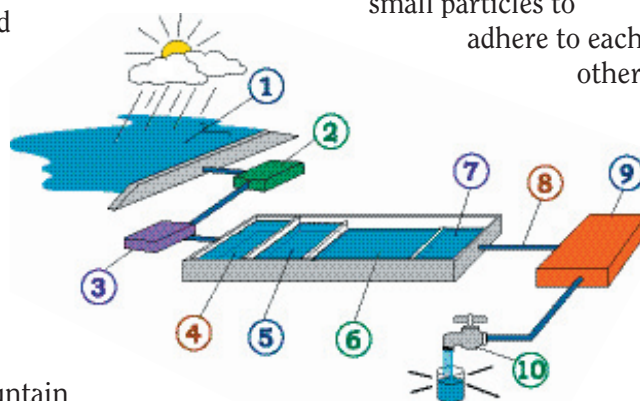
American Water Works Association
www.awwa.org

Water Environment Federation
www.wef.org

National Sanitation Foundation
www.nsf.org

Making Lake Water Drinkable

1. Reservoirs: Fort Worth water comes from six lakes.
2. Raw water pump station: Here water is pumped from the lake to the water treatment plant.
3. Primary Disinfection: Either ozone or chloramines (chlorine and ammonia) is added to kill bacteria and viruses. The Eagle Mountain and Rolling Hills water treatment plants use ozone. North Holly and South Holly water treatment plants presently use chloramines.



4. Mixing Chamber: Chemicals, called coagulants and polymers are added to the water to cause small particles to adhere to each other.
5. Coagulation Basin: The particulate matter begins to clump together.
6. Sedimentation Basin: Particles settle to the bottom of the basin and are removed.
7. Filters: Water is filtered through four feet of coal, sand and gravel.
8. Disinfection: Chloramines are added to provide disinfection all the way to your faucet. The chlorine kills bacteria and viruses. Ammonia is added to reduce the chlorine odor and the amount of chlorine byproducts created.
9. Clearwell storage: Water is temporarily stored in tanks before it is pumped to the public.
10. Distribution: Drinking water reaches the public through more than 2,600 miles of pipeline.

Key for Understanding the Tables

The following definitions should help in understanding the abbreviations used in the charts.

Action Level - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL - Maximum Contaminant Level; the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology and taking costs into consideration. MCLs are enforceable standards.

MCLG - Maximum Contaminant Level Goal; the level of a contaminant in drinking water below which there is no

known or expected risk to health. MCLGs allow for a margin of safety and are nonenforceable public health goals.

MRDL - Maximum Residual Disinfectant Level; the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal; the level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA - Not Applicable.

NTU - Nephelometric Turbidity Unit; used to measure water turbidity or clarity.

pCi/L - Picocuries per liter is a measure of radioactivity in water. A picocurie is 10⁻¹² curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

ppb - Parts per billion; equivalent to micrograms per liter

ppm - Parts per million; equivalent to milligrams per liter

TT - Treatment Technique; a required process intended to reduce the level of a contaminant in drinking water.

What's in the Water

The charts list all contaminants that are regulated or required to be monitored and were detected in Fort Worth drinking water. The data is from 2003, unless otherwise

noted by footnotes.

Fort Worth water did not exceed any of the regulated limits.

Regulated at the Treatment Plant						
Contaminant	Unit of Measure	Highest Allowed (MCL)	Fort Worth's Water	Range of Detections	Ideal Goal (MCLG)	Common Sources of Substance in Drinking Water
Atrazine	ppb	3	0.14	0 to 0.27	3	Runoff from herbicide used on row crops
Barium ¹	ppm	2	0.058	0.033 to 0.058	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta particles & Photon emitters ²	pCi/L	50	5.6	4.4 to 5.6	N/A	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Fluoride	ppm	4	1.43	0.10 to 1.43	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.62	0 to 0.62	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium 228 ²	pCi/L	5	1	0 to 1	N/A	Erosion of natural deposits
Turbidity ³	NTU	TT	0.37 Highest single result	N/A	N/A	Soil runoff
			99.98% Lowest monthly % of samples < 0.3 NTU			

¹ Because Fort Worth historically has had low levels of metals in its water, the Texas Commission on Environmental Quality (TCEQ) requires this monitoring occur only once every six years. The test results shown above are from 2002. The next monitoring will occur in 2008.

² Because Fort Worth historically has had low levels of radionuclides in its water, TCEQ requires this monitoring occur only once every three years. The test results shown above are from 2002. The next monitoring will occur in 2005.

³ Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Regulated in the Distribution System						
Contaminant	Unit of Measure	Highest Allowed (MCL)	Fort Worth's Water	Range of Detections	Ideal Goal (MCLG)	Common Sources of Substance in Drinking Water
Bromate	ppb	10	7	0 to 7	0	Byproduct of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	60	20	0 to 27	N/A	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	ppb	80	39	2 to 52	N/A	Byproduct of drinking water disinfection
Total Coliforms (including fecal coliform & E. coli)	% of positive samples	Presence in 5% of monthly samples	Presence in 1.26% of monthly samples	0 to 1.26%	0	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.
Contaminant	Unit of Measure	MRDL	Fort Worth's Water	Range of Detections	MRDLG	Common Sources of Substance in Drinking Water
Chloramines	ppm	4	3.1	0.5 to 4.2	4	Water additive used to control microbes

Regulated at the Customer's Tap						
Contaminant	Unit of Measure	90 th percentile values ⁵	# of Sites Exceeding Action Level	MCL	MCLG	Common Sources of Substance in Drinking Water
Lead ⁴	ppb	3.9	1	Action Level = 15	N/A	Corrosion of household plumbing systems; erosion of natural deposits
Copper ⁴	ppm	0.395	0	Action Level = 1.3	N/A	
⁴ Because Fort Worth historically has had low levels of lead and copper in its water, the Texas Commission on Environmental Quality requires this monitoring occur only once every three years. The test results shown above are from 2002. The next monitoring will occur in 2005.						
⁵ 90th percentile value: 90% of the samples were at or below this value. EPA considers the 90th percentile value the same as an “average” value for other contaminants. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps.						

Facts About Lead and Drinking Water

The Fort Worth Water Department wants you to be fully informed about lead in your drinking water.

Usually, lead is not in the water that leaves the water treatment plant. The source of lead in your water is most likely the pipe or solder in your home's plumbing. This may be from brass and chrome-plated faucets or lead-based solder used to connect copper pipes installed in interior household plumbing prior to 1987.

Lead gets into the water because of corrosion, a reaction between the water and lead pipes or plumbing fixtures. Dissolved oxygen, low pH (acidity) and low mineral content in water are common causes of corrosion.

In 1991, EPA required public water utilities to test for lead. When high lead levels were found, the utilities were required to take steps to reduce contamination. Federal law requires every water utility to have in place a program to minimize lead in your drinking water.

Fort Worth performed a corrosion control study and implemented an optimal corrosion control treatment program in 1994. Samples are routinely collected in the distribution system to monitor the effectiveness of the

corrosion control treatment. This monitoring shows the corrosion control program is effective.

Every three years, Fort Worth monitors for elevated lead and copper concentrations by collecting water samples at consumer taps. TCEQ has Fort Worth on a reduced monitoring program for lead and copper because results indicate most homes have very low levels of lead and copper in their drinking water.

If you are concerned about lead in your water, there are two things you can do since most lead comes from household plumbing and not the local water supplier.

Only use cold water for drinking and cooking. Hot water is likely to contain higher lead levels. If you need hot water for cooking or making baby formula, heat cold water.

If water in any faucet has not been used for at least six hours, run the water until it gets as cold as it will get. This flushing could take as little as five to 30 seconds, if there has been recent heavy water use, such as washing clothes or bathing. Otherwise, it could take two minutes or more.

Unregulated Contaminants ⁶						
Contaminant	Unit of Measure	Range of Detections	2003 Level	MCL	MCLG	Common Sources of Substance in Drinking Water
Chloral Hydrate	ppb	0 to 28	28	Not regulated	0	Byproduct of drinking water disinfection
Bromoform	ppb	0 to 3	3	Not regulated	0	Byproduct of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Bromodichloromethane	ppb	0 to 14	14	Not regulated	0	
Chloroform	ppb	0 to 17	17	Not regulated	0	
Dibromochloromethane	ppb	0 to 10	10	Not regulated	60	
Dichloroacetic Acid	ppb	3 to 14	14	Not regulated	0	Byproduct of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Trichloroacetic Acid	ppb	0 to 7	7	Not regulated	300	

⁶Unregulated contaminant monitoring helps EPA determine where, at what levels and how often certain contaminants occur in drinking water and whether it needs to regulate those contaminants.

Other Testing Performed

In 2003, Fort Worth's water was tested for 12 unregulated contaminants as part of the Unregulated Contaminant Monitoring Rule. About 2,800 large and 800 small public water systems participated in this monitoring nationwide. The U.S. Environmental Protection Agency will use the results to estimate national occurrence.

None of the 12 contaminants listed below were detected in Fort Worth's drinking water.

2,4-dinitrotolune	EPTC
2,6-dinitrotolune	Moninate
Acetochlor	MTBE
DCPA mono-acid degradate	Nitrobenzene
DCPA di-acid degradate	Perchlorate
4,4'-DDE	Terbacil

Reduced Monitoring

The Texas Commission on Environmental Quality has Fort Worth on reduced monitoring for some contaminants. This is because these contaminants historically have been detected at very low amounts or not at all.

Radiologicals	Every three years
Lead/Copper	Every three years
Metals	Every six years
Asbestos	Every nine years

Cryptosporidium, Giardia & Viruses

Fort Worth's 2003 testing of lake water detected low levels of *Cryptosporidium*, *Giardia lamblia* and viruses. Required levels of inactivation are achieved through disinfection and filtration.

These are microscopic organisms common in surface water. The source is human and animal fecal waste. When ingested, *Cryptosporidium* and

Giardia lamblia can cause diarrhea, cramps and fever.

No specific drug therapy has proven effective, but people with healthy immune systems usually recover within two weeks. Individuals with weak immune systems, however, may be unable to clear the parasite and suffer chronic and debilitating illness.

Additional Parameters		
This chart lists other items for which the water is tested. These items do not relate to public health but rather to the aesthetic effects. These items are often important to industrial users.		
Item	Unit of Measure	Fort Worth's Water
Bicarbonate	ppm	115 to 149
Calcium	ppm	95 to 164
Chloride	ppm	14 to 35
Conductivity	μmhos/m	335 to 474
pH	units	7.9 to 8.8
Magnesium	ppm	3 to 10
Sodium	ppm	12 to 31
Sulfate	ppm	37 to 54
Total Alkalinity as CaCO ₃	ppm	72 to 153
Total Dissolved Solids	ppm	185 to 261
Total Hardness as CaCO ₃	ppm	104 to 179
Total Hardness in Grains	grains/gallon	6 to 10

Need a Speaker for your neighborhood or civic club?

817-FW-24-HRS (817-392-4477)

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